

METHOD FOR EARLY DETECTION AND MONITORING OF DISEASES BY
ANALYSIS OF CELL-SURFACE-BOUND NUCLEIC ACIDS

ABSTRACT

5 This invention relates to noninvasive methods of early
detection of different sicknesses, like precancerous state or
early stages of cancer development, pathologies of pregnancy,
and monitoring of efficacy of anticancer therapy. The method
is based on cell-surface extra-cellular nucleic acids from
human blood which is divided into plasma and cellular
10 fractions, and further divided into Leukocytes and
erythrocytes. Cell-Surface-bound extra-cellular nucleic acids
are eluted form cell surface with PBS-EDTA treatment or
treatment of cells with trypsin solution. Eluted nucleic acids
are isolated with convenient method and analyzed for presence
15 of at least two specific sequences of nucleic acids such as
PCR analysis, multiplex PCR, hybridization assay or other
methods, thereby increasing the reliability of early detection
of the diseases with abnormal functioning of genetic apparatus
of cells due to increase of sensitivity of detection of
20 specific DNA and RNA sequences.